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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,672	04/30/2001	Radhika Thekkath	MTEC005/00US (0122.00US)	8987
22903	7590	05/19/2004	EXAMINER	
COOLEY GODWARD LLP ATTN: PATENT GROUP 11951 FREEDOM DRIVE, SUITE 1700 ONE FREEDOM SQUARE- RESTON TOWN CENTER RESTON, VA 20190-5061			GROSS, KENNETH A	
			ART UNIT	PAPER NUMBER
			2122	8
DATE MAILED: 05/19/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/844,672

Applicant(s)

THEKKATH, RADHIKA

Examiner

Kenneth A Gross

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This action is in response to the amendment filed on March 2<sup>nd</sup>, 2004.

#### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1, 3-11, 13-15, and 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (U.S. Patent Number 5,748,904) in view of Mann (U.S. Patent Number 6,009,270).

In regard to Claim 1, Huang teaches: (a) a plurality of compression modules that receive data input, each of said plurality of compression modules being configured to compress a piece of trace data to produce of compressed data (Figure 2, items 51-53, and associated text); (b) a compression selected module coupled to said plurality of compression modules, said compression selected module receiving pieces of compressed data that are produced by said plurality of compression modules, said compression selector module selecting the piece of compressed trace data that exhibits a desired level of trace data compression (Figure 2, item 56, and Column 2, lines 1-10). Huang does not teach that said data input is trace data. Mann, however, does teach compressing trace data to produce a piece of compressed trace data (Column 13, lines 50-52). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to build a system including a plurality of compression modules

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that receive data input, each of said plurality of compression modules being configured to compress a piece of trace data to produce of compressed data, and a compression selected module coupled to said plurality of compression modules, said compression selected module receiving pieces of compressed data that are produced by said plurality of compression modules, said compression selector module selecting the piece of compressed trace data that exhibits a desired level of trace data compression, as taught by Huang, where the data is trace data, as taught by Mann, since this allows trace data to be transferred or stored in a smaller state.

In regard to Claim 3, Huang teaches a run-length encoding module (Figure 2, item 51, and associated text).

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In regard to Claim 5, Huang teaches that the compression selector module signals a compression module that has been selected (Column 4, lines 63-67 and Column 5, lines 1-9).

In regard to Claim 6, Claim 6 is a computer product claim that corresponds directly with Claim 1, and Claim 6 is rejected for the same reasons as Claim 1, were Huang teaches a medium for the system of Claim 1. It would be obvious to use program code to control the function of the system of Claim 1, since the system of Claim 1 is a computer system, and program code is an inherent feature in a computer system for causing it to function in a specific way.

In regard to Claim 7, Claim 7 is a method Claim that corresponds with Claim 1, and is rejected for the same reasons as Claim 1, where it would be obvious to develop computer code for carrying out the function of the computer system taught in Claim 1, since program code is the way in which a system carries out a function, and where it would be further obvious to transmit this program code to the computer system, since the system will need to receive this code in order to use it on the computer system.

In regard to Claim 8, the examiner takes official notice that the Internet is a well-known medium for transferring computer code from computer systems located in different physical locations.

In regard to Claim 9, Claim 9 is a data signal claim that corresponds directly with Claim 7, and is rejected for the same reasons as Claim 7, where it would be obvious to embody a data signal on a transmission medium, since when transferring data between computers, the information must comprise a electrical data signal in order for the computer to understand the information sent.

In regard to Claim 10, Huang teaches: (a) compressing a piece of data using a plurality of compression methods to produce a corresponding plurality of pieces of compressed data (Column 2, lines 3-6); (b) selecting one of said plurality of pieces of compressed data (Column 2, lines 6-9); (c) and outputting said selected piece of data (Column 2, lines 9-10). Huang does not teach that said data input is trace data. Mann, however, does teach compressing trace data to produce a piece of compressed trace data (Column 13, lines 50-52). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform a method including compressing a piece of data using a plurality of compression methods to produce a corresponding plurality of pieces of compressed data, selecting one of said plurality of pieces of compressed data, and outputting said selected piece of data, as taught by Huang, where the data is trace data, as taught by Mann, since this allows trace data to be transferred or stored in a smaller state.

In regard to Claims 15, Claim 15 is a method Claim that corresponds to the system of Claim 1, and Claim 15 is rejected for the same reasons as Claim 1, where Huang teaches the method steps carried out by said system of Claim 1 (Column 6, lines 6-56).

In regard to Claims 11 and 17, the limitations of Claims 11 and 17 have already been addressed in the rejection of Claim 3, and Claims 11 and 17 are rejected for the same reasons as Claim 3.

In regard to Claims 14 and 19, the limitations of Claims 14 and 19 have already been addressed in the rejection of Claim 5, and Claims 14 and 19 are rejected for the same reasons as Claim 5.

In regard to Claim 20, Huang teaches: (a) a plurality of compression modules (Figure 2, items 51-53) that retrieves input information, said input information including a plurality of pieces of input data (Column 6, lines 10-13), each of said plurality of compression modules being configured to receive said plurality of pieces of input data and compress said plurality of pieces of input data to produce a corresponding plurality of pieces of compressed data (Column 6, lines 17-48); (b) a compression selector module coupled to said plurality of compression modules (Figure 2, item 56), wherein upon receipt of a piece of compressed data from each of said plurality of compression modules, said received pieces of compressed data corresponding to a single piece of input data, said compression selector module selects the piece of compressed data that exhibits a desired level of trace data compression (Column 2, lines 1-10). Huang does not teach that the data is trace data, nor does he teach that the input trace information is in the form of a stream. Mann, however, does teach compressing trace data to produce a piece of compressed trace data (Column 13, lines 50-52). Mann further teaches receiving a trace data

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input stream for compression (Column 14, lines 46-50). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to build a system including a plurality of compression modules and a compression selector module described above, as taught by Huang, where the data is trace data, as taught by Mann, since this allows trace data to be transferred or stored in a smaller state, and the input trace information is in the form of a stream, also taught by Mann, since this allows continuous transfer of data.

In regard to Claim 21, Huang teaches that selection by said compression selector module is performed for compressed data generated for each piece of input data (Column 6, lines 30-32 and lines 48-49).

In regard to Claim 22, Huang teaches that the selection is performed independently or compressed data generated for each piece of input data (Column 6, lines 30-32 and lines 48-49).

In regard to Claim 23, the limitations of Claim 23 have already been addressed in the rejection of Claim 3, and Claim 23 is rejected for the same reasons as Claim 3.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (U.S. Patent Number 5,748,904) in view Mann (U.S. Patent Number 6,009,270) and further in view of Miura et al. (U.S. Patent Number 5,625,785).

In regard to Claim 2, Huang and Mann teach the system of Claim 1, and Huang further teaches a buffer coupled to said compression selector module, said buffer storing said selected piece of compressed trace data (Figure 2, item 57). Neither Huang nor Mann teach that the trace data is stored prior to transmission on a trace bus. Miura, however, teaches a trace data bus configured to transfer trace data (Column 4, lines 56-62). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to build the system of Claim 1, as

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taught by Huang and Mann, further including a buffer coupled to said compression selector module, said buffer storing said selected piece of compressed trace data, as taught by Huang, and the trace data is stored prior to transmission on a trace bus, as taught by Miura, since this allows the trace data to be transferred to another computer system, where the data can be analyzed.

5. Claims 4, 13, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (U.S. Patent Number 5,748,904) in view Mann (U.S. Patent Number 6,009,270) and further in view of Yohe et al. (U.S. Patent Number 6,012,085).

In regard to Claim 4, Huang and Mann teach the system of Claim 1, but do not teach that the compression selector module selects one of said plurality of compression modules in accordance with a default selection. Yohe, however, does teach making a default selection from a plurality of compression methods (Column 12, lines 4-6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to build the system of Claim 1, as taught by Huang and Mann, where the compression selector module selects one of said plurality of compression modules in accordance with a default selection, as taught by Yohe, since this allows a standard compression method to be used if a compression method cannot be selected.

6. Claims 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (U.S. Patent Number 5,748,904) in view Mann (U.S. Patent Number 6,009,270) and further in view of Lim (U.S. Patent Number 5,434,622).

In regard to Claim 12, Huang and Mann teach the method of Claim 10, but do not teach that selecting comprises identifying the piece of compressed data that has the least number of bits. Lim, however, does teach compressing data with different algorithms, and comparing the



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number of bits in each of the compressed resulting data, and choosing the data with the least amount of bits (Column 3, lines 53-64). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of Claim 10, as Huang and Mann, where selecting comprises identifying the piece of compressed data that has the least number of bits, as taught by Lim, since smaller data is advantageous in storage and transmission purposes.

In regard to Claim 16, the limitations of Claim 16 have been addressed in the rejection of Claim 12, and Claim 16 is rejected for the same reasons as Claim 12.

### ***Response to Arguments***

In regard to argument that the McCullough reference does not qualify as prior art, the McCullough reference has been withdrawn from all rejections. New rejections of all the claims appear in the above rejections with qualifying prior art.

In regard to the argument that Huang is directed towards the compression of graphics data, and not trace data, while it is true that Huang does not teach the compression of trace data, the methods of Huang can be generalized to include all types of data. It is well known that most types of data can be compressed, and as the reference Mann points out, trace data, too, can be compressed. Although some of the compression techniques in Huang are graphics-specific, the algorithms themselves are not the issue. In other words, we are not concerned with "how" the data is compressed, only that the data is compressed by a selected compression module.


***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth A Gross whose telephone number is (703) 305-0542. The examiner can normally be reached on Mon-Fri 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q Dam can be reached on (703) 305-4552. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KAG

  
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SUPERVISORY PATENT EXAMINER